has at least ten droplet nozzles,

(b) laterally blowing ammonia gas against the falling droplets so that the surfaces of the falling droplets are substantially evenly gelled in a substantially spherical shape,

wherein the ammonia gas is carried through a narrow pipe which is laterally directed at the falling droplets and positioned a distance below the opening of said droplet nozzles;

(c) allowing the falling droplets to drop into an aqueous ammonia solution and coagulate to form substantially spherical beads;

(d) collecting the beads from the aqueous ammonia solution; and

(e) converting the collected beads to aluminum oxide.

35. The process according to claim 34 wherein the converting step comprises the step of drying the aluminum oxide beads.

36. The process according to claim 35, wherein the aluminum oxide beads are dried at a temperature of 20 - 300°C for 1 to 24 hours.

37. The process according to claim 35 which further comprises the step of calcining the aluminum oxide beads.

38. The process according to claim 34 wherein the aluminum oxide beads are calcined for 2-12 hours at 500 to 700°C.

39. The process according to claim 37 wherein the aluminum oxide beads are calcined for 2-12 hours at 500 to 700°C.

40. The process according to claim 34 wherein the aqueous ammonia solution contains a surface active agent for foam generation.

41. The process according to claim 34 wherein the aqueous ammonia solution contains a foam of 5 to 20 mm depth to improve bead shape.

42. A process for producing substantially spherical aluminum oxide beads comprising:

(a) passing an acidic sol based on aluminum oxide or an acidic suspension based on aluminum oxide having a viscosity of 10 to 500 mPa's through a vibrating annular nozzle plate so as to form falling hydrosol droplets, wherein the annular nozzle plate is vibrated at a frequency of 10 Hz to 20,000 Hz and has at least ten droplet nozzles;

(b) laterally blowing ammonia gas against the falling hydrosol droplets so that surfaces of the falling hydrosol droplets are substantially evenly gelled in a

substantially spherical shape

wherein said droplet nozzles are arranged annularly and the ammonia gas is laterally blown against the falling droplets from the interior of the annular arrangement of the droplet nozzles, and said ammonia gas blown against said falling droplets is positioned a distance below the opening of said droplet nozzles;

(c) allowing the falling droplets to drop into an aqueous ammonia solution and coagulate to form substantially spherical beads; and

(d) collecting the beads from the aqueous ammonia solution; and

(e) converting the collected beads to aluminum oxide.

43. The process of claim 34, wherein said droplet nozzles are arranged annularly and the ammonia gas is laterally blown against the falling droplets from the exterior of the annular arrangement of the droplet nozzles.

REMARKS

Applicant thanks the Patent Examiner for his detailed attention to this application and for the reconsideration by the Patent Office of originally filed claims 19-27. Claims 34-43 herein find antecedent support in claims 19-27. Amendments have been made to these claims to place the claims in clear and definite form. Applicant respectfully submits that claims 34-43 are in condition for allowance